

SECTION A.

TECHNICAL NOTES

INTRODUCTION

This report is based on final data from two Federal surveys. The first is the U.S. Department of Education's Integrated Postsecondary Education Data System (IPEDS) Completions Survey conducted annually by the National Center for Education Statistics (NCES). The second is the Survey of Earned Doctorates, conducted annually for the National Science Foundation (NSF) and four other Federal agencies. In addition, population data on various age groups for tables 56–58 were obtained from Current Population Surveys conducted by the Census Bureau. Each source is described in more detail in the following sections.

Data from the Completions Survey were used to report the number of bachelor's and master's degrees. The data on doctoral degrees in this report were derived from the Survey of Earned Doctorates, which surveyed all individuals earning research doctorates, rather than from the Completions Survey, which surveyed the institutions awarding the doctorates. The Survey of Earned Doctorate data were preferred because the data provided by individuals are more specific with respect to the field of specialization and are less prone to errors in data reporting and data entry than are the data provided in aggregates by institutions. Furthermore, doctorate data provide 100 percent coverage for data by field and sex of individual recipients, whereas institutional data are subject to imputation for nonresponse. For a comparison of reporting on doctoral degrees in the Completions Survey and the Survey of Earned Doctorates, see National Science Foundation, *Science and Engineering Doctorates: 1960–91*, NSF 93-301, Detailed Statistical Tables (Washington, DC, 1993).

BACHELOR'S AND MASTER'S DEGREE DATA

In the Completions Survey, data are collected on all degrees conferred between July 1 and June 30 from the universe of accredited institutions of higher education in the 50 States, the District of Columbia, and the U.S. Territories and Outlying Areas. The survey forms are filled out by institution administrative personnel. The data are collected according to sex of recipient and field of study. In 1997, the final universe of institutions granting bachelor's or higher level degrees was 2,342. Each year between 1966 and 1997, institutional responses to these surveys exceeded 85 percent. Imputations for non-response were based on the previous year's response for an institution, if available. For bachelor's degree data, 0.7 percent were imputed and for master's degree data, 1.7 percent were imputed.

Because the data in this report include those for institutions in the U.S. territories, they may differ from numbers published by NCES that relate only to the 50 States and the District of Columbia and their field groupings. Data on degrees by field of study were collected according to the *Classification of Instructional Programs*, developed by NCES. Four field classification systems were used during the 1966–1997 period. (See “Current Classification Schemes.”)

DOCTORAL DEGREE DATA

In the Survey of Earned Doctorates, information is collected during the period of July 1 of one year to June 30 of the next from all persons who have fulfilled the requirements for a *research* doctorate. The survey is funded jointly by NSF and four other agencies: the U.S. Department of Education, the National Institutes of Health, the National Endowment for the Humanities, and the U.S. Department of Agriculture. The survey forms were sent to all accredited doctorate-granting institutions for distribution by the graduate deans to all research doctorate recipients as they complete degree requirements. Information collected in the survey comprises demographic data, such as the student's sex, citizenship, and racial/ethnic group; education history, including field of degrees; sources of graduate student support; employment status during the year preceding receipt of the doctorate; postgraduation plans; and background on parents' education. Approximately 92 to 95 percent of the doctorate recipients complete and return the survey forms. For nonrespondents, commencement programs constituted a source of skeletal information that was added to the file. These variables were sex, field of study, institution, year of doctorate, and educational background. Consequently, for the variables used in this report, there is complete coverage. Data are updated annually from completed survey forms submitted belatedly by previous nonrespondents; therefore, data on doctorates are subject to revision and may differ very slightly from reports published earlier.

POPULATION DATA

Published reports of the Bureau of the Census, U.S. Department of Commerce, provided estimates of population in the various age classifications, based on sample household surveys. All documents used were from *Current Population Reports* estimates for the total population as of July 1 of each year. Data for years 1970–1979 were obtained from *Current Population Surveys*, “Preliminary Estimates of the Population of the United

States, by Age, Sex, and Race: 1970 to 1981,” No. 917, 1982. Data for 1980–89 were obtained from “United States Population Estimates by Age, Sex, Race, and Hispanic Origin: 1980 to 1991,” Series P-25, No. 1095. Data for 1990–1997 are from “United States Population Estimates by Age, Sex, Race, and Hispanic Origin: 1990 to 1998,” No. PPL-91.

FIELD CLASSIFICATION SCHEMES

It is difficult to establish a completely consistent series of degree data over a long period of time, given changes in field classifications and evolving fields of study. Data

for the earlier years are presented as consistently as possible with the current classification schemes of fields of study, which show the Completions and the Survey of Earned Doctorates field codes used in this report (beginning in section C—page 73).

Note that the data in this report are grouped into the science and engineering categories used by NSF. It should be noted that data on engineering technology degrees and degrees in health/medical fields are not included in the science and engineering totals here. Therefore, data in this report may differ from those in reports published by the U.S. Department of Education.